AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for producing a fine carbon fiber that comprises a center portion and a peripheral portion, the center portion having a carbon structure different from that of the peripheral portion, comprising thermally decomposing a carbon material in the presence of a catalyst fluid containing a solvent and fine particles of a catalyst dispersed therein, wherein the fine particles have a size of 20 nm or less, and the catalyst comprises a transition metallic compound comprising at least one element selected from the group consisting of Fe, Ni, and Co, wherein the transition metal compound is dispersed in the carbon material serving as a carbon source to form a mixture of the transition metallic compound and the carbon material, and the mixture is sprayed in the form of a liquid into a reaction furnace by a carrier gas.

2. (original): The method according to claim 1, wherein the fine particles are dispersed in an organic dispersant by a dispersant or a surfactant, and the transition metal compound is dispersed in an amount of 0.003 to 5 mass %.

3. (original): The method according to claim 2, wherein the surfactant is a cationic or anionic surfactant.

4. (original): The method according to claim 1, wherein a sulfur compound is employed as a promoter in an amount of 0.01 to 10 mass %.

5.-6. (canceled).

7. (original): The method according to claim 1, wherein the catalyst fine particles are Fe_3O_4 fine particles prepared in a reversed micelle containing water/bis(2-ethylhexyl) sulfosuccinate sodium salt (AOT)/benzene.

8. (new): The method according to claim 7, wherein the transition metal compound is dispersed in an amount of 0.003 to 5 mass%.

9. (new): The method according to claim 7, wherein a sulfur compound is employed as a promoter in an amount of 0.01 to 10 mass%.